

Docket No.: CUH-003.00
App. No.: 09/981,643

REMARKS

I. Status of Claims

Claims 1-62 are pending. Claims 38-39 and 50 have been allowed. Claims 56-58 have been objected to as being dependent on a rejected base claim, but have been indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Non-allowed claims have been rejected on various grounds, as is discussed below.

In view of the above amendments and following remarks, Applicants traverse all rejections and request reconsideration. For communicative efficiency, claim rejections may be discussed as if they had been applied even to since-amended claims.

Claims 1-15, 22-24, 51-54 and 56-58 have been amended. New claims 59-62 have been added without adding new matter.

II. The Office Action Failed to Acknowledge the IDS Filed Nov. 24, 2003

The Office Action did not acknowledge the Information Disclosure Statement filed by Applicants on Nov. 24, 2003, hereinafter referred to as the "2003-11-24 IDS" which included six references. Applicants respectfully request that, in a next communication from the Examiner, the Examiner please acknowledge the 2003-11-24 IDS by including copies of the PTO/SB/08A form and the PTO/SB/08B form from the 2003-11-24 IDS, with each reference's listing initialed by the Examiner on the copies and with the copies signed by the Examiner.

III. Indicated As Allowable: Claims 38-39, 50, 56-58 (Office Action Items 19, 20)

Item 19 of the Office Action indicated that claims 38-39 and 50 are allowable.

Item 20 of the Office Action indicated that claims 56-58 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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As a courtesy and convenience to the Examiner, claims 56-58 have been so amended solely to put them into independent form (and therefore without any change whatsoever to their claim scope). Applicants do respectfully point out, though, that such amending of claims 56-58 is purely cosmetic and is not necessary, given that claims 56-58 all depend directly from the allowed claim 38 and incorporate all of claim 38's limitations.

In any event, as indicated in the Office Action, claims 38-39, 50 and 56-58 are allowable.

IV. Section 112, Second Paragraph Rejections, "Composition": Claims 1-8, 10, 12-15 and 51-54 (Office Action Items 1 and 2)

Item 1 of the Office Action quoted 35 U.S.C. §112, second paragraph.

Item 2 of the Office Action rejected claims 1-8, 10, 12-15 and 51-54 under Section 112, second paragraph as being indefinite, for allegedly "appear[ing to be] incomplete in the absence of a substrate" and suggested overcoming the rejection by reciting a "composition".

Applicants have amended claims 1-8, 10, 12-15 and 51-54, as suggested, to recite a "composition". Accordingly, as indicated in the Office Action, claims 1-8, 10, 12-15 and 51-54 now have overcome their rejection from Item 2 of the Office Action under Section 112, second paragraph.

Claims 9, 11, 59-62

Claims 9 and 11 have been amended solely to put them into independent form (and therefore without changing their claim scope whatsoever). Accordingly, claims 9 and 11 are not affected by the amendments to claims 1 and 2.

New claims 59-60 have been added to recite a surface bearing the coating compositions of claims 1 and 2, respectively. New claims 61-62 have been added to recite a substrate in connection with copies of pre-amended claims 1 and 2, respectively. Accordingly, Applicants respectfully submit that new claims

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59-62 follow the language format apparently preferred by Item 2 of the Office Action.

V. Section 112, Second Paragraph Rejections, "Metal-Rich": Claims 1, 4-5, 9-37, 40-49, 51-52, 53 and 55 (Office Action Item 3)

Item 3 of the Office Action rejected claims 1, 4-5, 9-37, 40-49, 51-52, 53 and 55 under Section 112, second paragraph as being rendered indefinite by use of the term "metal-rich", with which the Examiner was not familiar. Item 3 requested clarification of the term "metal-rich". Item 3 stated that, for examination purposes, "metal-rich" will be interpreted as meaning the metal comprises 50% or more by weight of the composition or coating.

Applicants thank the Examiner for paying close attention to the language of Applicants' claims.

In response to Item 3, Applicants respectfully point out that the meaning of "metal-rich" taken in Item 3 for examination purposes is not the actual meaning of "metal-rich". Applicants respectively point out Metal-rich is a well-known adjective used by chemists and materials scientists to describe a compound having more metal than what would be considered to be within its normal stoichiometric composition. For example, ZrO₂ and ZrN are the stoichiometric compositions for zirconium oxide and nitride. Thus an example compound having a Zr/O ratio that is an amount higher than one-half is an example of metal-rich zirconium oxide, and an example compound having a Zr/N ratio that is an amount higher than 1 is an example of metal-rich zirconium nitride.

VI. Examined Claims Not Rejected on Cited Art: Claims 4, 51, 2-3, 52, 6, 53-54, 19-20, 23-24, 26-34, 36, 42, 47

Claims 4, 51, 2-3, 52, 6, 53-54, 19-20, 23-24, 26-34, 36, 42, 47 were rejected under only Section 112, Second Paragraph. They were not rejected based on cited art. Applicants respectfully submit that the rejections under Section 112, Second Paragraph have been overcome by discussion above.

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Accordingly, Applicants respectfully submit that claims 4, 51, 2-3, 52, 6, 53-54, 19-20, 23-24, 26-34, 36, 42, 47 are therefore immediately seen to be allowable.

VII. The Office Action's Response to Arguments (Office Action Items 14-18)

Items 14-17 of the Office Action withdrew various objections and rejections in view of Applicants' previous Response, filed September 15, 2003.

Item 18 of the Office Action described some of Applicants' arguments, filed September 15, 2003, as being non-persuasive.

Applicants respectfully do not agree with Item 18 that Applicants' arguments should be considered to be not persuasive. Applicants respectfully believe that the core basis of most rejections and disagreement is a lack of understanding of the term "metal-rich". Now that an understanding of the term "metal-rich" has been facilitated above, Applicants believe that upon reconsideration, the claims should be seen to be allowable.

In particular, Applicant respectfully believe that if Applicants' previous Response of September 15, 2003 were to be re-read, with a correct understanding of the term "metal-rich", then the claims will be seen to be allowable. Accordingly, Applicants' previous Response of September 15, 2003 is hereby incorporated by reference. For the Examiner's convenience, Applicants will still provide some amount of discussion below of specific claims.

(In discussing Applicants' arguments with regard to the Gates, Schintlmeister, JP'750 and Nelson references, Item 18 of the Office Action used a reference-by-reference discussion and not a claim-by-claim discussion. Applicants respectfully find the reference-by-reference discussion in Item 18 to be difficult to follow or understand, given that the reference-by-reference discussion of Item 18 was not then indexed by discussion involving specific claims. Accordingly, Applicants will use only claim-by-claim discussion below. Applicants respectfully point out that Applicants own reference-by-reference discussion (from Applicants previous Response of September 15, 2003) were a preliminary discussion whose labeled paragraphs were then indexed in claim-by-claim discussion.)

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VIII. Section 102 Rejections, Gates: Claims 1, 9-16 (Office Action Items 4-5)

Item 4 of the Office Action quoted 35 U.S.C. §102(b) (hereinafter, "Section 102(b)").

Item 5 of the Office Action rejected claims 1 and 9-16 under Section 102(b) as being anticipated by U.S. Patent No. 4,714,660 to Gates (hereinafter, "Gates").

Claims 1 and 9-16 all recite or incorporate a feature of "metal-rich" in connection with other features. An understanding of "metal-rich" has been facilitated above. As Applicants have discussed in Applicants' previous Response of September 15, 2003, Gates simply does not disclose "metal-rich" or "metal-rich" in connection with the other limitations of claims 1 and 9-16. Accordingly, Applicants respectfully submit that claims 1 and 9-16 are allowable over Gates. Furthermore, Gates actually teaches away from "metal-rich" by specifically teaching deposition conditions (e.g., high-temperature CVD) that are those commonly used in the field for the production of stoichiometric compounds, as opposed to metal-rich compounds.

IX. Section 102 Rejections, Schintlmeister: Claims 18, 26, 28-32 and 37 (Office Action Item 6)

Item 6 rejected claims 18, 26, 28-32 and 27 under Section 102(b) as being anticipated by U.S. Patent No. 4,599,281 to Schintlmeister (hereinafter, "Schintlmeister").

Claims 18, 26, 28-32 and 27 all recite or incorporate a feature of "metal-rich" in connection with other features. An understanding of "metal-rich" has been facilitated above. As Applicants have discussed in Applicants' previous Response of September 15, 2003, Schintlmeister simply does not disclose "metal-rich" or "metal-rich" in connection with the other limitations of the claims in question. Applicants respectfully draw the Examiner's attention to the fact that all actual coatings produced by the invention of Schintlmeister have stoichiometric compositions instead of metal-rich compositions. Accordingly, Applicants

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respectfully submit that claims 18, 26, 28-32 and 27 are allowable over Schintlmeister. Furthermore, like Gates, Schintlmeister actually teaches away from metal-rich compositions by disclosing deposition conditions that are commonly used in the field for the production of stoichiometric compounds, as opposed to metal-rich compounds.

X. Section 102 Rejection, JP'750: Claim 22 (Office Action Item 7)

Item 7 rejected claim 22 under Section 102(b) as being anticipated by Japanese Patent Number 08-003750 (hereinafter, "JP'750").

As discussed above, claims 23-24, which depend on claim 22, are now seen to be allowable, given that the term "metal-rich" is now seen to be a known term in the art and not "indefinite". Claim 22 has been amended to have the same scope as the "union set" of the scope of allowable claims 23 and 24. Accordingly, Applicants respectfully submit that claim 22 is therefore allowable for at least the same reasons that claims 23 and 24 are themselves allowable.

(Claims 23 and 24, incidentally, have been amended solely to put them into independent form without changing their claim scopes whatsoever.)

XI. Section 102 Rejection, Schintlmeister: Claims 40-41, 43-46 and 48-49 (Office Action Item 8)

Item 8 rejected claims 40-41, 43-46 and 48-49 under Section 102(b) as being anticipated by Schintlmeister.

Claims 40-41, 43-46 and 48-49 all recite or incorporate a limitation of "metal-rich" in connection with other limitations. "Metal-rich" has been explained above. As Applicants have discussed in Applicants' previous Response of September 15, 2003, Schintlmeister simply does not teach or suggest "metal-rich" or "metal-rich" in connection with the other limitations of the claims in question. Accordingly, Applicants respectfully submit that claims 40-41, 43-46 and 48-49 are allowable over Schintlmeister.

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XII. Section 103 Rejections: Claims 17, 55, 5, 21, 35, 25 (Office Action Items 9-13)

Item 9 quoted 35 U.S.C. §103(a) (hereinafter, "Section 103(a)").

Item 10 rejected claims 17 and 55 under Section 103(a) as being unpatentable over Gates as applied to claims 1 and 16, respectively.

Item 11 rejects claim 5 under Section 103(a) as being unpatentable over Gates as applied to claim 1.

Item 12 rejected claims 21 and 35 under Section 103(a) as being unpatentable over Schintlmeister as applied to claims 18 and 27, and further in view of U.S. Patent Number 4,731,302 to Weissmantel (hereinafter, "Weissmantel").

Item 13 rejected claim 25 under Section 103(a) as being unpatentable over JP'750 as applied to claim 22 and further in view of Schintlmeister.

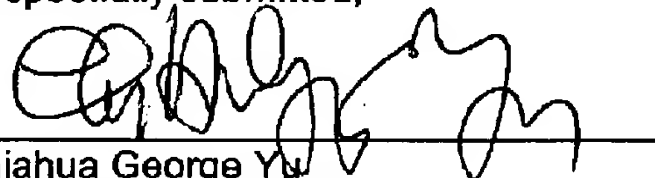
As can be seen, all of the Section 103 rejections first rely on logic from the Section 102 rejections. The Section 102 rejections have all been seen to be improper, in view of the correct understanding of the term "metal-rich". Accordingly, Applicants respectfully submit that the Section 103 rejections must fail for failure to account for all elements of each rejected claim, and the assertions from Items 10-13 of the Office Action, which Applicants do not agree with, are rendered moot. Applicants respectfully submit that claims 17, 55, 5, 21, 35, 25 are allowable for at least the same reasons as are their respective base or intervening claims. Applicants further respectfully submit that these claims are further allowable for the limitations that they themselves recite.

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CONCLUSION

In view of the amendments and remarks above, Applicants believe that all claims are allowable over the cited art. Accordingly, Applicants respectfully request that the application be passed to allowance, after reconsideration by the Examiner. If the Examiner has any questions, or believes that discussion would be beneficial, he is invited to telephone Applicants' undersigned representative.

Respectfully submitted,



Dated: June 2, 2004

Chiahua George Yu
Attorney for Applicant(s)
Reg. No. 43,301
Phone: (858) 793-9282
Fax: (858) 793-9501

Correspondence Address:
Law Offices of C. George Yu
12707 High Bluff Drive
Second Floor; PMB 2008
San Diego, CA 92130